



RECEIVED

APR 14 2004

Technology Center 2100

WHAT IS CLAIMED IS:

61. A method to allow remote users to access computer files with server-based applications by activating a hyperlink, the method comprising the steps of:
- (a) providing a computer server system connected to a communications network, the server system having access to at least one computer file and to executable code for at least one file-compatible server-based application, the at least one application being adapted to open said at least one computer file;
 - (b) providing an application file hyperlink that is associated with said at least one computer file;
 - (c) providing at least one remote recipient user computing device to at least one hyperlink recipient user which is connected to said communications network;
 - (d) providing hyperlink activation means on the at least one remote recipient user computing device for activating said application file hyperlink;
 - (e) providing hyperlink detection means on said computer server system which detects the execution of the hyperlink by said hyperlink recipient user over said communications network;
 - (f) providing thin client means on said at least one remote recipient user computer adapted to receive and display a graphical user interface of said file-compatible server-based computer application, and accept and transmit inputs of said user back to the server-based application;
 - (g) providing means on said computer server system adapted to select and start said file-compatible server-based computer application in a user session;
 - (h) providing file means on said computer server system which opens said computer file in said file-compatible server-based computer application; and
 - (i) providing means on said computer server system for transmitting the human interface of said file-compatible server-based computer application to the at least one remote recipient user computer and to receive inputs to said interface from the at least one hyperlink recipient user.
62. The method of claim 61, further comprising the step of providing hyperlink generation means for creating said application file hyperlink and associating the hyperlink with said at least one computer file.
63. The method of claim 61, further comprising the step of providing hyperlink transmission means for transmitting said application file hyperlink to said at least one hyperlink recipient user;

64. The method of claim 61, wherein said communications network comprises an internet.
65. The method of claim 61, wherein said communications network comprises a local area network.
66. The method of claim 61, wherein said hyperlink comprises a uniform resource locator.
67. The method of claim 61, further comprising the steps of:
- (a) disassociating said application file hyperlink from said at least one computer file; and
 - (b) associating said application file hyperlink with at least one different computer file.
68. The method of claim 61, additionally comprising the step of modifying the application interface capability function settings of said file-compatible server-based computer application.
69. The method of claim 61, wherein the recipient user computer is of a type selected from the group consisting of:
- (a) a personal computer;
 - (b) a personal digital assistant;
 - (c) a web or internet appliance device; and
 - (d) a television set-top box.
70. The method of claim 62, wherein the graphical user interface of said hyperlink generation means comprises a web page form.
71. The method of claim 61, further comprising the step of providing file access and manipulation restriction means whereby said recipient user's access to and manipulation of said at least one computer file is variable and can be set for specific sessions according to specified parameters.
72. The method of claim 71, wherein the file restriction means comprises a partially disabled file-compatible server-based application.
73. The method of claim 71, wherein said file restriction means comprises a partially disabled thin-client application means.
74. The method of claim 71, wherein said file access and manipulation restrictions are selected from the set consisting of:
- (a) whether the data file may be accessed;
 - (b) a number of times the data file may be accessed;

- (c) a particular time period during which the file may be accessed;
 - (d) whether said hyperlink recipient user may print the data file locally;
 - (e) whether said hyperlink recipient user may save said first data file locally onto said remote recipient user computing device;
 - (f) whether said data file or portions thereof may be copied onto the local computer memory clipboard of the remote recipient user computing device;
 - (g) whether, after alteration by said recipient user, said data file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is replaced by the altered file, and said application file hyperlink is now associated with said altered file, and
 - (h) whether, after alteration by said recipient user, said data file or portions thereof may be saved onto said computer server system, whereby the original copy of said data file is not replaced by the altered file and remains on the storage system of said server system.
75. The method of claim 71, wherein said file restriction means are varied depending upon parameters of said specific session selected from the group consisting of:
- (a) the identity of said hyperlink recipient user;
 - (b) the network address of said hyperlink recipient user;
 - (c) whether a qualifying action has been performed by said recipient user; and
 - (d) whether authentication information has been provided by said hyperlink recipient user.
76. The method of claim 75, wherein said authentication information is selected from the group consisting of:
- (a) a password;
 - (b) the network address of said hyperlink recipient user;
 - (c) a digital signature, and
 - (d) information provided via the HTTP authentication protocol.
77. The method of claim 75, wherein said qualifying action is accepting an agreement.
78. The method of claim 73, wherein said agreement obligates the recipient user to limit disclosure of the content of said data file.
79. The method of claim 77, wherein said agreement is a license agreement.

80. The method of claim 63, wherein said hyperlink transmission means comprises means selected from the following group:

- (a) an email message;
- (b) an instant messaging application;
- (c) a hyperlink embedded in a web page;
- (d) a telephone;
- (e) an appropriately formatted document or file; and
- (f) a pager.

81. The method of claim 61, comprising the additional steps of:

- (a) providing executable code on said computer server system for producing a computer visual interface desktop work area,
- (b) providing access to or links to said file-compatible application on the visual interface desktop,
- (c) providing access to or links to zero or more additional applications on the visual interface desktop,
- (d) providing access to or links to said at least one computer file or document on the visual interface desktop; and

wherein said thin client means on said at least one remote recipient computer are adapted to receive and display said computer visual interface desktop work area.

82. The method of claim 61, additionally comprising the steps of:

- (a) after detecting said hyperlink activation, assigning a guest account to said recipient user; and
- (b) creating a copy of said at least one computer file in the guest account; and
- (c) opening the file copy in said file-compatible server-based application instead of the original computer file.

83. The method of claim 82, wherein the guest account is created before being assigned to the user.

84. The method of claim 82, wherein the guest account is deleted upon the closing of the computer file by the user.

85. The method of claim 82, further comprising the step of predefining a plurality of guest accounts, and further wherein one of the predefined guest accounts is assigned to the user after hyperlink activation.
86. The method of claim 85, wherein the guest account is unassigned upon the closing of the computer file by the user. /
87. The method of claim 61, wherein said at least one computer file comprises a first computer file and at least one additional computer file, and wherein said application file hyperlink is associated with both the first and the additional computer files, and comprising the additional steps of:
- (a) operating on a remote computer a plurality of application programs, said plurality of programs having at least one program compatible with or capable of opening each of said computer files;
 - (b) opening the computer files in said plurality of application programs; and
 - (c) transmitting the user interface of said plurality of application programs to said thin client means.
88. The method of claim 61, wherein said at least one computer file comprises a plurality of computer files, and wherein said at least one file-compatible server-based application comprises a single application that is compatible with or capable of opening all of said plurality of computer files, and additionally comprising the step of opening the plurality of computer files in said first application program.
89. The method of claim 61, further comprising the step of displaying to said recipient user a GUI graphical element in an appropriately formatted document or file, and further comprising the step of linking said application file hyperlink to the GUI element via underlying code, whereby execution of which GUI element by said hyperlink recipient user activates said hyperlink.
90. The method of claim 61, further comprising the step of providing means for at least one additional user using at least one additional remote user computing device to view and optionally interact with the interface of said file-compatible server-based computer application, whereby the additional user and the first hyperlink recipient user may engage in simultaneous collaboration over said file or document.
91. The method of claim 61, wherein said method is provided by an entity as a service and further comprising the step of providing subscription means associated with said service whereby a remote hyperlink recipient user who is not a subscriber of said entity is solicited to subscribe to said service.
92. The method of claim 61, wherein a log of accesses to said computer file is kept on said computer server system.

93. The method of claim 61, further comprising the step of notifying at least one designated user upon the occurrence of hyperlink access events selected from the group consisting of:
- (a) hyperlink activation;
 - (b) file access; and
 - (c) file alteration.
94. The method of claim 93, wherein said notification utilizes transmission means selected from the group consisting of:
- (a) an email application;
 - (b) an instant message application;
 - (c) a telephone; and
 - (d) a pager.
95. The method of claim 93, wherein said notification includes details about said hyperlink access events.
96. The method of claim 95, wherein said details about said hyperlink access events comprises data selected from the group consisting of:
- (a) details about said hyperlink recipient user;
 - (b) the time of activation of said application file hyperlink;
 - (c) information about said file associated with said application file hyperlink;
 - (d) the network location of said hyperlink recipient user;
 - (e) information about any changes to said data file.
97. The method of claim 61, wherein said computer server system comprises a computing machine configuration selected from the group consisting of:
- (a) a single server;
 - (b) a personal computer.
 - (c) multiple, separate computers operating as a single, logical server.
98. The method of claim 61, wherein the hyperlink activation is detected on a detection computer separate from the remote computer.

99. The method of claim 61, wherein the application program and the computer file are stored on a storage device not directly connected to the remote computer.
100. The method of claim 61, wherein the computer file is stored on a storage device directly connected to the remote computer.
101. The method of claim 61, further comprising the step of downloading the thin client from the server system to said at least one remote recipient user computing device .
102. The method of claim 101, wherein the step of downloading the thin client occurs only after said at least one remote recipient user computing device is examined and found not to already have the thin client available.
103. The method of claim 61, wherein the step of opening the computer file occurs only after a determination is made that the hyperlink associated with the computer file is still active.
104. The method of claim 61, wherein changes are made to the computer file after the hyperlink is created, and the hyperlink remains associated with the latest version of the computer file.
105. The method of claim 61, wherein the application program is not operating on the remote computer until after the activation of the hyperlink is detected.
106. The method of claim 61, wherein said means for selecting said file-compatible application is adapted to make said selection after considering criteria selected from the group consisting of:
- (a) information about optimum applications for viewing of said file;
 - (b) information about optimum applications for manipulation of said file;
 - (c) said recipient user's legal rights to use available file-compatible applications; and
 - (d) usage permissions associated with said available file-compatible applications.
107. The method of claim 106, wherein the recipient user's legal rights are established by criteria selected from the group consisting of:
- (a) the provision of valuable consideration by said recipient user in exchange for rights to use available file-compatible application;
 - (b) the provision by said recipient user of information authenticating the recipient user's legal rights to use available file-compatible applications; and
 - (c) the subscription by said recipient user to rights to use said available file-compatible application.
108. The method of claim 71, further comprising the steps of:

- (a) providing a user group comprising at least one member user with access to an email account;
- (b) intercepting all incoming emails for said user group prior to delivery to the email accounts of the at least one member user of said user group;
- (c) screening said incoming emails for attached data files,
- (d) removing said attached data files and storing said attached data files on the said computer server system;
- (e) creating an application file hyperlink to said attached data files;
- (f) appending said application file hyperlink to an incoming email to which said attached data file had been attached;
- (g) forwarding said incoming email without the attached file to the intended member user's email account; and
- (h) said member user accessing said attached data file by activating said application file hyperlink.

109. The method of claim 71, further including the steps of:

- (a) providing a user group consisting of at least one member user with access to an email account;
- (b) automatically intercepting all outgoing emails for said user group;
- (c) automatically screening said outgoing emails for attached data files;
- (d) automatically removing the attached data file from the outgoing email and storing said attached file on the server;
- (e) said computer server system creating an application file hyperlink to said attached files;
- (f) said computer server system appending said hyperlink to said outgoing email;
- (g) said server forwarding said incoming email without the attached file to its intended recipient's email account; and
- (h) said intended recipient accessing said attached file by activating said application file hyperlink.

110. The method of claim 108, further comprising the step of centrally setting parameters of the file access and manipulation restrictions for said user group.

111. A method comprising the steps of:

- (a) providing a computer server system which is connected to a communications network and which contains executable code of at least one server-based application,
- (b) providing an application hyperlink that is associated with said server-based application,
- (c) providing a computing device to at least one recipient user which is connected to said communications network,
- (d) providing hyperlink activation means on the recipient user's computing device for activating said application hyperlink,
- (e) providing hyperlink detection means on said computer server system which detects the activation of the hyperlink by said recipient user,
- (f) providing means on said computer server system for selection and launch of said server-based computer application,
- (g) providing means on said computer server for transmitting the graphical user interface of said server-based computer application to said recipient user's computing device, and receiving inputs to said human interface from the user; and
- (h) providing thin client means on said recipient's computer which can receive and display said human interface of said server-based computer application, and can accept and transmit the inputs of said recipient user back to the server-based application.

112. The method of claim 111, comprising the additional steps of:

- (a) providing application hyperlink generation means on said computer server system for creating said application hyperlink; and
- (b) providing application hyperlink transmission means for transmitting said application hyperlink to said at least one recipient user.

113. The method of claim 111, wherein said server-based computer application comprises a first communications means consisting of a communications program or application.

114. The method of claim 113, comprising the additional steps of:

- (a) providing a second communications means to one or more additional users which are compatible with or capable of communicating with said first communications means; and
- (b) providing address configuration means on said server system which allow said communications program to be configured with the communications address of said one or more additional users.

115. The method of claim 114, wherein said first and second communications means comprises programs selected from the group consisting of:

- (a) an email program;

- (b) an instant messaging program;
- (c) a voice-over-internet-protocol program;
- (d) a video conferencing program; and
- (e) an internet relay chat application.

116. The method of claim 111, wherein said server-based application comprises a computer visual interface desktop work area, and further comprising the steps of:

- (a) providing one or more native software server-based applications and
- (b) providing access to or links to said one or more native software server-based applications within said computer visual interface desktop work area.

117. The method of claim 116, wherein said native software applications comprise applications selected from a group consisting of:

- (a) an email program,
- (b) an instant message program,
- (c) stock quotes,
- (d) news,
- (e) weather,
- (f) a group scheduling program,
- (g) file storage means; and
- (h) a calendar program.

118. The method of claim 116 used in conjunction with a commercial service, further comprising the step of:

providing access to said computer visual interface desktop to subscribers of said commercial service, whereby said application hyperlink recipient may utilize said visual interface desktop in a manner similar to accessing a personalized home web page which utilizes html or javascript code, but with the full functionality of standard software applications instead of the limited functionality of said html or javascript code.

119. A method to allow a user of a local computer to access a computer file, the method comprising the steps of:

- (a) providing a communications network;

- (b) detecting the activation by the user of a hyperlink associated with the computer file;
 - (c) operating on a remote computer an application program associated with the computer file;
 - (d) after detecting the activation of the hyperlink, opening the computer file in the application program running on the remote computer; and
 - (e) operating a thin client on the local computer, the thin client allowing the user to provide input to and receive output from the application program running on the remote computer.
120. The method of claim 119, wherein the hyperlink contains a unique identifier, and further wherein the method includes the step of associating the unique identifier with meta data identifying the computer file.
121. The method of claim 119, wherein the application program is associated with the computer file after the activation of the hyperlink is detected.
122. The method of claim 119, wherein multiple application programs are available to be associated with the computer file, and the associated application program is selected based on selection criteria chosen from the group comprising:
- (a) legal rights of the user to use the application programs;
 - (b) capabilities of the application programs; and
 - (c) properties that are associated with the hyperlink.
123. A method for handling incoming e-mails at an e-mail gateway comprising:
- (a) identifying a data file attachment on an incoming e-mail addressed to a recipient;
 - (b) creating a copy of the identified attachment on a storage device accessible by the e-mail gateway;
 - (c) creating a reference associated with the attachment copy;
 - (d) deleting the attachment from the incoming e-mail and adding said hyperlink to the email;
 - (e) operating on a remote computer remote from the recipient an application program associated with the attachment copy;
 - (f) opening the attachment copy in the application program running on the remote computer upon activation of the hyperlink; and
 - (g) operating a thin client on a local computer used by the recipient, the thin client allowing the recipient to provide input to and receive output from the application program running on the remote computer.

124. The method of claim 123, further comprising the step of scanning the attachment for a computer virus.
125. The method of claim 123, wherein said reference is a hyperlink.
126. A method for handling outgoing e-mails at an e-mail gateway comprising:
- (a) identifying a data file attachment on an outgoing e-mail addressed to a recipient;
 - (b) creating a copy of the identified attachment on a storage device accessible by the e-mail gateway;
 - (c) creating a hyperlink associated with the attachment copy;
 - (d) replacing the identified attachment in the outgoing e-mail with the hyperlink;
 - (e) forwarding the outgoing e-mail with the hyperlink to the recipient;
 - (f) detecting an activation of the hyperlink by the recipient;
 - (g) operating on a remote computer remote from the recipient an application program compatible with said attachment copy;
 - (h) opening said attachment copy in said application program; and
 - (i) operating a thin client on a local computer used by the email recipient, the thin client allowing the recipient to provide input to and receive output from said application program.
127. The method of claim 126, further comprising the step of imposing file access restrictions on said attachment copy.
128. The method of claim 127, further comprising the step of setting a variable level of access restrictions based upon a security level associated with the recipient.
129. The method of claim 127, further comprising the step of setting a variable level of access restrictions based upon a security level associated with the identified attachment.
130. An application server comprising:
- (a) a network interface to communicate over a computer network;
 - (b) at least one processing unit for running software programs and components;
 - (c) an application remote-operation enabling program capable of operating an application program and providing remote interaction with the application program over the computer network via a thin client operating on a remote computer;
 - (d) a storage device containing a computer file;

- (e) an association component that associates a hyperlink with the computer file;
- (f) a listener component capable of detecting an activation of the hyperlink over the computer network by the remote computer; and
- (g) an initiator component that, upon detection of the hyperlink activation, opens the computer file in said application program and transmits the graphical user interface of said application program to the thin client operating on the remote computer.

131. The application server of claim 130, wherein the at least one processing unit is selected from the group consisting of:

- (a) a single server;
- (b) a personal computer; and
- (c) multiple, separate computers operating as a single, logical server.